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*Published in:*  
European Journal of Work and Organizational Psychology

*DOI:*  
[10.1080/1359432X.2017.1287074](https://doi.org/10.1080/1359432X.2017.1287074)

*Publication date:*  
2017

*Document Version*  
Publisher's PDF, also known as Version of record

[Link to publication in Tilburg University Research Portal](#)

*Citation for published version (APA):*  
de Jong, J., Rigotti, T., & Mulder, J. (2017). One after the other: Effects of sequence patterns of breaches and overfulfilled obligations. *European Journal of Work and Organizational Psychology*, 26(3), 337-355.  
<https://doi.org/10.1080/1359432X.2017.1287074>

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To cite this article: Jeroen de Jong, Thomas Rigotti & Joris Mulder (2017) One after the other: Effects of sequence patterns of breached and overfulfilled obligations, *European Journal of Work and Organizational Psychology*, 26:3, 337-355, DOI: [10.1080/1359432X.2017.1287074](https://doi.org/10.1080/1359432X.2017.1287074)

To link to this article: <http://dx.doi.org/10.1080/1359432X.2017.1287074>



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Published online: 23 Feb 2017.



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# One after the other: Effects of sequence patterns of breached and overfulfilled obligations

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## ABSTRACT

To date, the study of psychological contracts has primarily centred on the question how retrospective evaluations of the psychological contract impact employee attitudes and behaviours, and/or focus on individual coping processes in explaining responses to breached or overfulfilled obligations. In this study, we aim to assess the extent to which sequences of breached and overfulfilled obligations impact job satisfaction and citizenship behaviour intentions. By integrating psychological contract research and theories on cognitive information processing, we formulate competing hypotheses on how sequences of breached and/or overfulfilled obligations lead to patterns of job satisfaction and citizenship behaviour intentions. These competing hypotheses were tested using a vignette study and an experiment. A Bayesian approach was used to test these pattern hypotheses directly against each other. The results show that breached obligations have an immediate negative impact on our outcome variables. Moreover, sequentially breached obligations lead to a continuous decline of job satisfaction and citizenship behaviour intentions. Overfulfilled obligations do little to compensate this negative impact. Implications for theory and practice are discussed.

## ARTICLE HISTORY

Received 18 November 2015  
Accepted 20 January 2017

## KEYWORDS

Psychological contract; sequential events; job satisfaction; citizenship behaviours; Bayesian hypothesis testing

The psychological contract (PC) is defined as the employee's belief regarding the mutual obligations between the employee and the organization (Rousseau, 2001). It is one of the core concepts to understand the employment relationship and to understand how perceived messages and events concerning the employment relationship impact employee outcomes. PC evaluation generally involves an employee's cognition about the extent to which one's organization has failed to meet or has met perceived obligations (Morrison & Robinson, 1997). Employment relationships involve many successive exchanges of promises, contributions, and inducements. This idea of PCs as sequences of reciprocal obligations about the terms of the exchange relationship and the extent to which subsequent transactions relate to these obligations was part of the earlier conceptualizations of the PC (see Rousseau, 1989; Schein, 1980). PCs should therefore be considered as "a process involving a series of unfolding events and interpretations of these events" (Conway & Briner, 2005, p. 132). As such, sequences of breach and (over-) fulfillment as well as combinations of these events are important antecedents of work-related attitudes and behaviour (Ballinger & Rockman, 2010).

Up to date, however, research primarily employed moderation frameworks to address effects in combinations of positive and negative social exchange evaluations, and has produced inconclusive results. For example, some suggest that a history

of high-quality exchanges may buffer or compensate the negative impact of breached obligations (e.g., Conway & Coyle-Shapiro, 2012; Dulac, Coyle-Shapiro, Henderson, & Wayne, 2008; Morrison & Robinson, 1997; Robinson, Kraatz, & Rousseau, 1994), while others propose that high-quality exchanges intensify the negative effects of breach (e.g., Bal, Chiaburu, & Jansen, 2010), or that cumulative breaches of obligations are followed by increasing but less intense responses to subsequent breach (de Jong, Clinton, Rigotti, & Bernhard-Oettel, 2015). Because employment relationships appear to consist of alternating periods of positively and negatively evaluated events, there is a glaring need for a more thorough understanding about the dynamic manifestation of the PC (Conway & Briner, 2005, 2009; Conway & Coyle-Shapiro, 2012). To contribute to this understanding, we aim to assess the extent to which sequences of breached and (over-) fulfilled obligations impact job satisfaction and citizenship behaviour intentions.

As we employ an experimental design, we opted for proximal outcomes that are sensitive to experimental manipulation. According to Affective Events Theory (Weiss & Cropanzano, 1996), satisfaction is directly related to negative and positive evaluations of work incidents. This is empirically underlined by the high correlation between PC breach and job satisfaction (Zhao, Wayne, Glibkowski, & Bravo, 2007). In addition we look at citizenship behaviour intentions, because

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A previous version of this paper has appeared in the Academy of Management Proceedings (2014)

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withdrawal from proactive behaviour has been shown to be the most likely proximal reaction caused by PC breaches (Robinson & Morrison, 1995). Specifically, we focus on how job satisfaction and citizenship behaviour intentions develop along sequences of successive obligations that may either be breached or overfulfilled. We research four specific sequences of events; (1) a sequence of breached obligations and a sequence of (2) overfulfilled obligations, (3) overfulfilled obligations followed by breached obligations, and (4) breached obligations followed by overfulfilled obligations.

One of the fundamental conclusions of research on PC evaluations is that perceptions of breached obligations are very common in employment relationships (e.g., Coyle-Shapiro & Kessler, 2000; Robinson & Rousseau, 1994), and can impact employee attitudes on a monthly (Ng, Feldman, & Lam, 2010), weekly (Bal, Hofmans, & Polat, 2017; Solinger, Hofmans, Bal, & Jansen, 2015) and even daily basis (Conway & Briner, 2002). Overfulfilment, on the other hand, has received scant attention in PC research, but the available evidence suggests that it also seems to be a frequent event. In a cross-sectional study with 163 employees, Ellis (2007) states that "[...] participants" reported overfulfilment of promises rather than negative violations [...] " (p. 351). Moreover, in a diary study over ten consecutive work days, Conway and Briner (2002) found that "Sixty-two per cent of participants reported at least one exceeded promise over the 10 days". (p. 295). We decided to focus on overfulfilment, as we wanted to contribute to the on-going debate whether overfulfilment should be regarded as a positive or negative event (for a discussion see Lambert, 2011). In developing our hypotheses, we will argue that overfulfilment can constitute both, a positive or negative event. More specifically, overfulfilment can be a positive event in the light of compensating negative events such as breach. However, in itself, positive events can evoke mixed responses.

So far, studies on the effects of compensating breached obligations are mainly conceptual (Morrison & Robinson, 1997; Tomprou, Rousseau, & Hansen, 2015) or focus on coping strategies used by employees (Bankins, 2015) rather than patterns of outcomes that result from sequences of events. Moreover, the dynamic nature of the PC was addressed by general assessments of past exchanges within the employment relationship (Bal et al., 2010; Dulac et al., 2008; Robinson & Morrison, 2000). These approaches are also less suitable for uncovering how employees respond to compensation – preceding or following breached obligations by (over-)fulfilling other obligations. Therefore, we also aim to contribute to the recent debate about PC repair (e.g., Bankins, 2015; Tomprou et al., 2015).

To develop our hypotheses, we build on PC theory and research, and complement this by drawing from other fields of research, including asymmetric processing of negative and positive events (Peeters, 2002) and non-associative learning (Groves & Thompson, 1970). We introduce competing hypotheses for each sequence because different literatures can be leveraged on the impact of sequences of exchanges on outcomes. Two complementary studies were conducted to test the competing hypotheses: a vignette study with employees as respondents ( $N = 286$ ) and an online experiment with

undergraduate students as respondents ( $N = 208$ ). The experiments consist of three (Study 1) and four (Study 2) events in which obligations are breached or overfulfilled. For each sequence competing theories and hypotheses were formulated with equality constraints (" $=$ ") and/or order constraints (" $<$ " or " $>$ ") between the adjusted means across points of measurements. Subsequently the Bayes factor was used to determine which theory best explains the observed data (Kass & Raftery, 1995). This novel Bayesian approach (a) has more statistical power than traditional omnibus tests (Hojtink, 2011) and (b) provides a direct answer to which theory receives most support from the data (Braeken, Mulder, & Wood, 2015). Last, we address implications for PC research and managerial practice.

## Theoretical framework

### *Cyclical manifestations of PCs*

Since the early literature (e.g., Argyris, 1960; Levinson, Price, Munden, Mandl, & Solley, 1962), the PC has been conceptualized as a set of beliefs about the reciprocal obligations within the employee–organization exchange relationship. These sets of beliefs are perceptual and idiosyncratic in nature, implying that individuals develop subjective interpretations about these obligations that are not necessarily shared by others, such as colleagues and supervisors. Despite the emphasis on the mutual and reciprocal aspect of the PC, research has mainly focused on responses to breach of promises made by the organization as this was found to have a greater impact on employee outcomes compared to employee obligations (Zhao et al., 2007).

Instead of focusing on the extent to which the PC overall is considered to be breached or fulfilled, we focus on the development of (employment) relationships by taking single obligations as our unit of analysis. The evaluative cognition that one's organization has succeeded or failed to meet one or more obligations within one's PC is generally referred to as perceived PC fulfilment or PC breach, respectively (Morrison & Robinson, 1997). PC evaluations are considered the core concept when it comes to employee outcomes (Conway & Briner, 2005). In this regard, we consider a single breached obligation as a negative event and a single overfulfilled obligation as either a positive or negative event depending on its embeddedness in a sequence of events. In psychology, a positive and negative event is considered one that has the potential or actual ability to create advantageous or adverse outcomes for the individual, respectively (Taylor, 1991). Because breach of an obligation implies that employees are denied what they feel they are entitled to receive, PC breaches have both the potential and the actual ability to create negative outcomes for the individual.

### *Cognitive processing of sequential events*

In accordance with Abbott (1990) and Langley (1999), we define a sequence of events as an ordered sample of individual happenings at work that have some sort of effect on work-related outcomes such as attitudes and behavioural

intentions. A number of theories are pertinent to the consequences of sequences of events, rooted in how individuals cognitively process events. Affective Events Theory (AET, Weiss & Cropanzano, 1996) proposes that persons go through “affect cycles”; patterns including both positive and negative affect that are the result of a series of positive and negative work-related events. In coping with these affect cycles, workers will “engage in coping processes which can divert resources away from job activities and consequently reduce job performance” (Weiss & Cropanzano, 1996, p. 42). Because AET proposes that work attitudes such as job satisfaction mediate the effects of affective reactions to work events on judgment-driven behaviours such as job performance, we propose that this cognitive process could impact how responses to sequences of events develop for job attitudes.

The cognitive processing of events is also evident in non-associative learning. Non-associative learning refers to those instances in which a subject’s behaviour towards a stimulus changes in the absence of any apparent associated stimulus or event, such as a reward or punishment (Poon & Schmid, 2012). The literature on non-associative learning distinguishes between two types of learning; habituation can be defined as a decreased response to repeated stimuli, and sensitization refers to an increased response to repeated stimuli (Groves & Thompson, 1970). Habituation constitutes an adaptive mechanism by which the organism moves limited processing resources away from an event that is well known or familiar, making them available for other concurrent or forthcoming stimuli (Stephenson & Siddle, 1983). In doing so, it lessens the cognitive impact of the stimulus through repeated exposure to it (Ashforth & Kreiner, 2002). In contrast, sensitization reflects a mechanism by which organisms move processing resources to the event, making them less available for other stimuli. This phenomenon involves attentional resources, whose mobilization increases with repeated stimuli.

Both affect cycles and non-associative learning concern patterns of responses to sequences of stimuli. Next to moving processing resources from or to an event, humans possess another psychological ability: classifying events as positive or negative (Dijksterhuis & Smith, 2002). There is abundant evidence that the cognitive processing of positive events or information is different from processing negative events or information (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Rozin & Royzman, 2001). According to the asymmetric effect theory (Peeters, 2002), people pay more attention and give more weight to negative experiences rather than to positive experiences (Baumeister et al., 2001). This phenomenon is also referred to as the “negativity bias”. The negativity bias is thought to be rooted in evolutionary psychology. Survival required more urgent attention to potentially negative events because ignoring dangerous situations could lead to serious harm (Baumeister et al., 2001). Accordingly “bad” information is processed more thoroughly than “good” information (Ito & Cacioppo, 2005). In conclusion, sequences of events as well as the nature of the event determine how events are cognitively processed.

## Hypotheses

In the following section, we introduce competing hypotheses for each type of sequence based on an integration of PC research as well as cognitive information processing theory. As mentioned in the introduction, we develop competing hypotheses for each sequence because different literatures propose different mechanisms behind the impact of sequences of exchanges on outcomes. These different mechanisms can be based on different theories, but also on different empirical outcomes from PC research. We start with the sequences involving combinations of positive and negative events, and end with the sequences involving negative or positive events only.

### *Combining overfulfilment with breached obligations*

By far, the most studied phenomenon in PCs is the effect of breached obligations on employee outcomes (for reviews, see Bal, De Lange, Jansen, & van der Velde, 2008; Zhao et al., 2007). The main argument behind the impact of breached obligations on outcomes is that the discrepancy between what is promised and what is delivered will be reciprocated by lowered contributions on the part of the employee.

A considerable portion of research on PC breach has been devoted to study how past exchanges within employment relationships moderate the effects of breached obligations. In these studies, past exchanges are operationalized by assessing alternative exchange relationships such as leader–member exchange (Dulac et al., 2008), perceived organization support (Bal et al., 2010; Conway & Coyle-Shapiro, 2012; Dulac et al., 2008), or more general assessments of the quality of the social exchange relationship (Bal et al., 2010; Cassar & Briner, 2011). With respect to the impact of high-quality exchange relationships on responses to breached obligations, two competing hypotheses can be formulated; a buffering and an intensifying hypothesis (Bal et al., 2010). The buffering-hypothesis proposes that the negative relationship between contract breach and work behaviours will be buffered for people having high-quality social exchange relationships because these relationships entail high levels of investment on both parties, and this behaviour supports motivation to continue the relationship (Dulac et al., 2008). Therefore, once a relationship has been perceived as being of high quality, future transactions will be likely to be viewed as fair (Tekleab, Takeuchi, & Taylor, 2005). Moreover, employment relations that are characterized by high quality exchanges are likely to have broad zones of acceptability (Schalk & Roe, 2007), with a greater threshold for breached obligations to have a negative impact on work-related outcomes. Following the idea that an overfulfilled obligation is a positive event, the buffering argument suggests that employees in high-quality exchange relationships, characterized in this study by a history of positive events (or overfulfilled obligations), are likely to forgive the organization for the breached obligation (Conway & Coyle-Shapiro, 2012), and refrain from negative responses;



**Hypothesis 1a:** *Job satisfaction and citizenship behaviour intentions will stay constant when obligations are breached after other obligations are overfulfilled.*

In contrast to the buffering-argument, Morrison and Robinson (1997) suggest that breach will lead to negative responses because it contrasts the “social contract” with norms about appropriate behaviour in a social unit that governs the relationship. Therefore, breach is inconsistent with previous exchanges, leading to intense responses. Bal and colleagues (2010) reported evidence for this intensifying hypothesis. We believe similar logic can be used to explain the impact of transitions between positive and negative events. When employees experience breached obligations after positive events, the asymmetric weight of the negative event will immediately lead to decreased levels of job satisfaction and citizenship behaviours. Moreover, overfulfilment of obligations creates expectations about future obligations. Expectancy violations theory suggests that subsequent breach of these expectations trigger interpretation-evaluation processes of this discrepancy, leading to negative outcomes when the valence of the discrepancy is negative (Afifi & Burgoon, 2000).

**Hypothesis 1b:** *Job satisfaction and citizenship behaviour intentions will decrease when obligations are breached after other obligations are overfulfilled.*

### **Combining breached with overfulfilled obligations**

Probably one of the most frequently mentioned implications for managers in studies on PCs is that they need to carefully manage their relationships with employees once the former perceive that the PC has been breached. As stated by Rousseau (1989), a defining feature of PC breach is that once an obligation has been unfulfilled it cannot easily be repaired (Robinson et al., 1994). In other words, fulfilment following breach is unlikely to overcome the negative consequences of the prior breach (Conway, Guest, & Trenberth, 2011). According to Baumeister et al. (2001), the negative impact of negative events can only be overcome by the superior force of numbers. Many positive events (i.e., overfulfilled obligations) are needed to overcome the effects of one negative one. One of the assumptions we can therefore make about repairing breached obligations is that receiving (similar amounts of) overfulfilled obligations after breached obligations will not lead to increased levels of job satisfaction and citizenship behaviour intentions;

**Hypothesis 2a:** *Job satisfaction and citizenship behaviour intentions will stay constant when obligations are overfulfilled after other obligations are breached.*

In contrast to this hypothesis, Rousseau (1995) proposes that breached obligations can be remediated with other outcomes, which serve as “buyouts” to the inability to follow up on another outcome. Research on trust repair provides additional support for this claim. For example, Gillespie and Dietz (2009) argue that after the organization

has damaged the trust employees have in their organization, distrust can be regulated and trustworthiness demonstrated by offering specific, tangible compensation (i.e., reparation). In a recent study, Henderson and colleagues (2014) show that offering compensation is most effective in repairing PC breach compared to other repair tactics including apologies, denials, and excuses. Moreover, Tomprou et al. (2015) propose that perceived organizational responsiveness, which entails the perception that the organization recognizes the breach and the perception that the organization actively attempts to repair the breach, increases the likelihood that breached obligations will be resolved. Indeed, a recent study by Solinger et al. (2015) found that higher levels of perceived organizational support increased the opportunity of PC breach resolution. Therefore, our competing hypothesis states that:

**Hypothesis 2b:** *Job satisfaction and citizenship behaviour intentions will increase when obligations are overfulfilled after other obligations are breached.*

### **Sequence of breached obligations**

We will now consider sequences of similar negative or positive events. With respect to a sequence of negative events, again two different predictions can be made. In their study on the impact of the quality of the exchange relationship, Dulac and colleagues (2008) found that employees reported more intense responses after PC breach when they were involved in a lower quality exchange relationship (measured by perceived organizational support and LMX relationships). They propose that when employees are in a low quality exchange relationship with their employer, an additional breach of the PC will be perceived as being unfair, confirming prior beliefs about the employment relationship. In addition, Robinson (1996) shows that among new hires, low initial trust strengthened the effect of PC breach on subsequent trust. Moreover, Solinger and colleagues (2015) show that accumulating breached obligations leads to disproportionate declines of organizational commitment (cf. Rigotti, 2009). Uncertainty reduction theory (Berger, 1979) as well as sense-making theory (Weick, 1995) suggest that, to increase the predictability of the actions of the other party, deviances from expectations produce heightened awareness about the actions of the other party. In this process of increased monitoring of the environment (or vigilance, see Morrison & Robinson, 1997), employees are increasingly sensitive to cues signalling more breached obligations. As a result, the likelihood that employees will perceive obligations to be breached in subsequent events increases (Robinson & Morrison, 2000), thus leading to more intense responses. This argument is consistent with non-associative learning theory, which suggests that when events require more cognitive resources this leads to increased responses to repeated stimuli. This suggests that responses to breach intensify after each negative event.

**Hypothesis 3a:** *Job satisfaction and citizenship behaviour intentions will decrease when different obligations are sequentially breached.*

In contrast to the arguments earlier, there is also theoretical as well as empirical evidence that low-quality exchange relationships buffer against decreasing employee outcomes. According to non-associative learning theory (Groves & Thompson, 1970), humans can habituate to negative events by moving away cognitive processing resources when they are well known or familiar with the event. This suggests that when employees perceive subsequent breached obligations, they get used to these negative events and shift their attention to other events. There's also empirical evidence that repeated breached obligations do not intensify reactions. Robinson et al. (1994) studied how change in the development of mutual obligations follows a norm-of-reciprocity-pattern, or an instrumental pattern. They proposed that employees would recoup from breached obligations by developing more entitlements, but their hypothesis was not supported. This suggests that repeatedly breached obligations do not increase employees' sense of entitlement but rather that they stick with their current set of entitlements and refrain from negative responses in the hope that the organization will fulfil them in the future. Bal and colleagues (2010) found more evidence that low-quality exchange relationships actually buffer against subsequently breached obligations. They propose that employees in low-quality exchange relationships would already have lower expectations of their organization, and that subsequent breach is just another signal that the organization does not follow through on its obligations. Basically, employees get used to the behaviour of their organization, and adjust their expectations accordingly. This habituation-argument contrasts the sensitization-argument proposed in hypothesis 3a and suggests that;

**Hypothesis 3b:** *Job satisfaction and citizenship behaviour intentions will first decrease and then stay constant when different obligations are sequentially breached.*

### **Sequence of overfulfilled obligations**

As opposed to breached obligations, overfulfilled obligations have received far less attention in PC theory as well as in empirical work on PCs. In line with the definition of PC breach, overfulfilment can be defined as the evaluative cognition that one's organization has exceeded the delivery of one or more obligations within one's PC (based on Morrison & Robinson, 1997). As mentioned in the introduction, overfulfilment (or excess fulfilment) of obligations is conceptualized in two ways; as a positive and as a negative event. Both of these conceptualizations offer different explanations about the effects of overfulfilment on employee outcomes. The first conceptualization puts overfulfilment on the same continuum with breached obligations, with fulfilment as the midpoint (Lambert, 2011). Following this

view, employees would reciprocate exceeded obligations with increased contributions that benefit the organization, such as OCB and job performance (e.g., Turnley, Bolino, Lester, & Bloodgood, 2003; Turnley & Feldman, 2000). Moreover, as we theorize earlier, overfulfilled obligations can be used to compensate negative events such as breached obligations. Subsequent excess fulfilment of obligations would then lead to consistently high levels of contributions on the side of the employee. However, employees likely have distorted perceptions about the exchange of obligations between themselves and their employer (Morrison & Robinson, 1997). Based on the self-serving bias, employees may consider consistent job satisfaction and citizenship behaviour intentions as sufficient compensation for overfulfilled obligations. Combining the logic of non-associative learning and negativity bias, we propose that positive events such as overfulfilled obligations are processed less intensively compared to negative events such as breached obligations. As such, positive events are weaker stimuli which are more likely to lead to habituation (Thompson, 2009), resulting in stable employee outcomes such as job satisfaction and citizenship behaviour intentions. Therefore, we expect:

**Hypothesis 4a.** *Job satisfaction and citizenship behaviour intentions will remain stable when different obligations are sequentially overfulfilled.*

A second conceptualization views overfulfilment as a distinct concept, which is not a positive event that is the opposite of a negative event such as breach, but instead having similar, breach-like, effects on outcomes (e.g., Conway et al., 2011; Lambert, Edwards, & Cable, 2003; Montes & Irving, 2008). According to the breach-due-to-excess-argument, receiving more than obligated to receive also reflects a deficiency in the extent to which obligations are fulfilled. As such, outcomes such as job satisfaction and citizenship behaviour intentions will be lower compared to fulfilled obligations (Lambert et al., 2003), because obligations are still breached. However, compared to breached obligations, overfulfilled obligations may have less potential or actual ability to create adverse outcomes for the individual (Taylor, 1991). For example, receiving more training than promised is a deficiency of the initial promise, but it does not hurt an employee's career perspectives. As such, overfulfilment has different properties compared to negative events. Overfulfilment mainly has psychological consequences for perceptions regarding the employment relationship; an employee can, for example, feel less trust towards the employer for not fulfilling an obligation. Negative events, however, can have long-term implications, as not receiving training can hurt career opportunities in the long run. For overfulfilment we therefore expect that the decrease in job satisfaction and citizenship intentions does not persist because long-term consequences are less probable, leading to constant levels of job satisfaction and citizenship intentions when employees continue to receive excess inducements. Therefore, the breach-due-to-excess-argument would predict the same downward pattern with

respect to reciprocal attitudes and behavioural intentions compared to the habituation-pattern of the breach-sequence.

**Hypothesis 4b.** *Job satisfaction and citizenship behaviour intentions will first decrease and then become constant when different obligations are sequentially overfulfilled.*

## Study approach

We tested these hypotheses using two experiments. Although the use of experimental designs is not common in PC research (for notable exceptions, see Lambert, 2011; Montes & Zweig, 2009), it allows the testing of reactions to the particular sequences we intend to assess in this study. We are aware about the disadvantages of using experiments in PC research, and we will elaborate on the limitations of our approach in the discussion. However, using an experimental design, we are able to let respondents experience one of the four theoretical sequences we aim to test in our study. Other research designs such as a field study or case study, would present difficulties in isolating sequences of single evaluations of obligations, and to achieve the sample size necessary to test our hypotheses. Furthermore, experiments allow us to measure the effects of breached and overfulfilled obligations in close proximity to the event, which improves internal validity. We designed two complementary studies that each addresses one of the disadvantages of experimental research designs in the light of PC research. In Study 1, we use employees as respondents and ask them to respond to a scenario with their own employer in mind to improve external validity. In Study 2, we use students and a game-show design to create a situation in which a breached or overfulfilled obligation actually has an impact on the outcome of the game, which aims to improve construct validity.

## Study 1: vignette study

The first study intended to test the hypotheses using a sample of employees. We used a vignette design to model the sequences of breached and overfulfilled obligations. A vignette study uses short descriptions of situations or persons (vignettes) that are shown to respondents within surveys to elicit their judgments about these scenarios (Atzmüller & Steiner, 2010). In this design, we can control salience and timing of breach and overfulfilment, and it also allows us to assess immediate responses to breach and overfulfilment. Subsets of respondents received different sequences of vignettes.

## Method

In this study, we applied an experimental design with fixed sets of vignettes, with a random allocation of respondents over these sets of vignettes. We used a 4 × 3-design in which respondents were allocated to one of four different sequences of PC evaluation and report about their attitudes at three points in time after a priming of the respondents.

Respondents could receive vignettes in which obligations were breached only (B|BBB), in which obligations were overfulfilled only (O|OOO), or sets of vignettes that make either a transition from breach to overfulfilment (B|BOO) or make a transition from overfulfilment to breach (O|OBB). Here, a B reflects a breached obligation and an O reflects an overfulfilled obligation. The vertical line in the sequence patterns should reflect that the first event (breach or overfulfilment) was part of the priming, and outcomes were measured after each of the next three events. The online survey instrument randomly allocated respondents to one of these four sets of vignettes.

The vignette reflected a situation in which the employer of the respondent was undergoing an organizational change (see Appendix A for an overview of the different vignettes).<sup>1</sup> We used their own employment situation to increase the validity and realism of the study, which are two of the main concerns of experimental designs such as vignette studies (Aguinis & Bradley, 2014). In the introduction of the situation, the respondent (the employee) receives three promises from their organization; (1) *they will not receive a pay cut*, (2) *they and their colleagues will still work together in the future*, and (3) *they will receive a personal budget to spend on training*. Pay, working environment, and personal development are generally terms on which employees see their employers to be obligated (Anderson & Schalk, 1998; Herriot, Manning, & Kidd, 1997). In the first stage of the set of vignettes, respondents are primed into a breach-state or an overfulfilment-state by adding a sentence about their experiences during past organizational change processes. In the following stages, respondents received vignettes in which each promise is breached or overfulfilled by their employer. For example, the breach vignette states that they receive a pay cut (despite the promise that they would not), and the overfulfilment vignette states that they receive a pay raise. Respondents allocated to a set of vignettes involving combinations receive the opposite vignette after they receive the vignette about the promise about salary. Following this design, respondents go through one of the four sequences (B|BBB, O|OOO, O|OBB, and B|BOO) used in this study.

## Procedure and sample

The vignette was administered online. First respondents received a short explanation about the study, after which we asked for demographic characteristics. Then, we introduced the vignettes with a general introduction, followed by the priming. We then added a video of a funny commercial on Youtube.com to get the respondents minds off the scenarios. Then, we introduced the vignette about salary (obligation 1). After this vignette, we added a short survey with questions about the fulfilment of the obligation and our dependent variables. After this short survey, we showed another video from Youtube.com. This procedure is repeated for obligation 2 and 3 (no video was shown after promise 3).

The sample consisted of alumni of a midsized Dutch university. The alumni were contacted by means of an email containing a link to the online vignette. A total of 286 respondents participated in the vignette study. The allocation of



these respondents across the four different sequences is as follows; B|BBB ( $n = 72$ ), O|OBB ( $n = 76$ ), B|BOO ( $n = 56$ ), and O|OOO ( $n = 82$ ). The slightly lower number of respondents in the B|BOO sequence is the consequence of the randomization-procedure; fewer respondents were allocated to that sequence compared to the other sequences. The sample included 156 females (54.5%) and 130 males (45.5%). The average age was 35.77 years ( $SD = 12.33$ ), and the average tenure at their employer was 7.12 years ( $SD = 7.95$ ).

## Measures

### Job satisfaction

Job satisfaction was measured after each vignette. We adapted three items from the overall job satisfaction scale of Price (1997) to fit the vignette study; (a) "I'm (still) satisfied with my job"; (b) "I (still) dislike my job" (recoded), and c) "I'm (still) enthusiastic about my job". Answer categories ranged from "Totally disagree" to "Totally agree". The scale used after the second and third measurement point was adapted by adding "still" to the items to emphasize the reflective nature of job satisfaction in relation to the breached or overfulfilled obligation. Reliability (Cronbach's Alpha) was sufficient across all three subsequent measures: .84 (Event 1, E1), .75 (Event 2, E2), and .72 (Event 3, E3).

### Citizenship behaviour intentions

Citizenship behaviour intentions were measured after each vignette. We adapted three items of the OCB-scale developed by Kelloway, Loughlin, Barling, and Nault (2002); (a) "I am (still) willing to volunteer to do things not formally required by the job", (b) "I am (still) willing to assist my supervisor with his/her duties, and c) "I am (still) willing to help colleagues who have heavy workloads". Similar to the measure of job satisfaction, we adapted the scale by adding "still" to the items after the second and third measurement point. Response categories ranged from "Certainly not" to "Certainly yes". Reliabilities were sufficient across the three subsequent measures: .79 (E1), .80 (E2), and .86 (E3).

### Control variables

We included gender (0 = male, 1 = female), age, and organizational tenure (in years) as covariates. These variables were selected because gender (Lee, Pillutla, & Law, 2000), age (Bal et al., 2008), and tenure (Conway & Coyle-Shapiro, 2012) are all three important demographic factors associated with the impact of PC evaluations on outcomes.<sup>2</sup>

### Analytic strategy

For each sequence, pattern hypotheses were formulated with equality constraints (" $=$ ") and/or order constraints (" $<$ " or " $>$ ") between the adjusted measurement means of job satisfaction and citizenship behaviour intentions. For the sequence in which overfulfilled obligations are combined with breached obligations (i.e., the O|OBB sequence), for example, we are interested in testing;

- H3a<sub>1</sub>:  $E1 > E2 > E3$  &  $\text{diff1} = \text{diff2}$  ("constant decrease");
- H3a<sub>2</sub>:  $E1 > E2 > E3$  &  $\text{diff1} < \text{diff2}$  ("accelerating decrease");

- H3a<sub>3</sub>:  $E1 > E2 > E3$  &  $\text{diff1} > \text{diff2}$  ("decelerating decrease");
- H3b:  $E1 > E2 = E3$  ("habituation");
- H3c:  $E1 = E2 = E3$  ("no change");
- H3d: None of the above.

Note here that E1, E2, and E3 denote the adjusted means at measurement 1, 2, and 3, respectively, and  $\text{diff1}$  and  $\text{diff2}$  denote the differences between subsequent means (i.e.,  $\text{diff1} = E1 - E2$  and  $\text{diff2} = E2 - E3$ ). These hypotheses can be tested directly against each other using Bayesian hypothesis testing. This works as follows. First prior probabilities need to be specified for each hypothesis. These probabilities quantify how plausible each hypothesis is before observing the data. The standard objective choice is to use equal prior probabilities. In the earlier example with six pattern hypotheses, this implies that each hypothesis gets a prior probability of 1/6 to be true. The prior hypothesis probabilities are updated with the information of the data using the Bayes factor (Kass & Raftery, 1995). The Bayes factor quantifies how likely the observed data was under a specific hypothesis relative to another hypothesis. In order to compute Bayes factors, prior distributions need to be specified for the free parameters (such as the adjusted means) under each hypothesis. To avoid subjective or ad hoc prior specification, a default prior is constructed using the methodology of Mulder et al. (2009, 2010), which is implemented in the software package "BIEMS" (Mulder, Hoijtink, & de Leeuw, 2012). The software has a graphical user interface and is freely downloadable from [www.jorismulder.com](http://www.jorismulder.com). The default prior that is implemented in BIEMS has two important properties. First the default prior contains minimal information, which is common in objective Bayesian methods (Berger & Pericchi, 2004). Minimal information is achieved by taking subsets of the data of minimal size. This property ensures that the prior is dominated by the information in the data. Second, the default prior is constructed such that every ordering of the measurement means is equally likely a priori. In our example, there are six possible orderings of three means. Therefore, each possible ordering receives a prior probability of 1/6 under the default prior (Mulder, Hoijtink, & Klugkist, 2010). The resulting default prior is referred to as the conjugate expected constrained posterior prior. The details can be found in Mulder et al. (2009, 2012). For introductions on this methodology, see Van de Schoot et al. (2011), Kluytmans, Van de Schoot, Mulder, and Hoijtink (2012) and Braeken et al. (2015). Thus, instead of performing multiple *post hoc* tests between all different pairs of means, which may result in either very large type I error probabilities or very large type II error probabilities, or in conflicting conclusions (e.g.,  $E1 = E2$  and  $E2 = E3$ , but  $E1 \neq E3$ ), the Bayesian approach provides a simple and direct answer about the plausibility of the six pattern hypotheses after observing the data.

## Results

### Manipulation check

To check whether the respondents also perceived the sequence of breach/overfulfilment to which they were allocated, we added a manipulation check after each vignette. The check consisted of a single item, asking the respondent the

following question: "To what extent did the organization fulfil their promise about your salary/colleagues/training?" Response categories ranged from "the organization has failed to fulfil its promise" (1) to "the organization did much more than promised" (5). Figure 1(a) shows the answers to this single item across the three measuring points for respondents in the four different sequences. The figure shows that respondents in the B|BBB and O|OOO-sequences consistently answered that obligations were breached/fulfilled and that the respondents in the two compensation-sequences show a clear change in their evaluations.

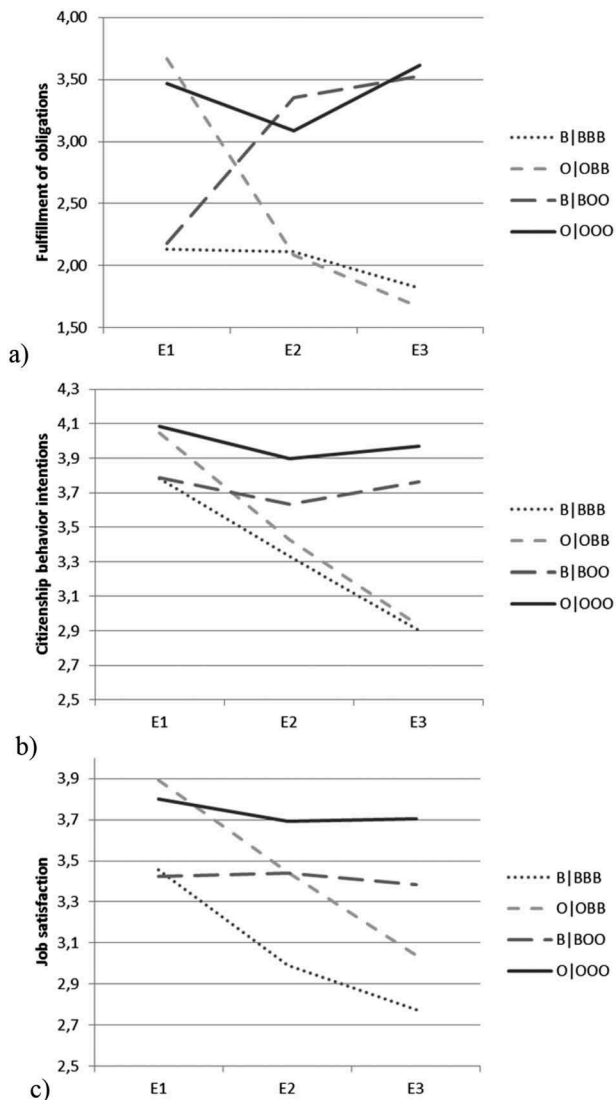
### Hypotheses tests

The credibility intervals for the adjusted means of each measurement for all sequences are reported in Table 1 to give a general idea about the magnitude and the direction of the effects. The means are adjusted for the covariates gender, age, and tenure. Table 2 shows the posterior hypothesis

**Table 1.** 95%-Credibility intervals of main variables of study 1 ( $n = 286$ ).

	E1		E2		E3	
	LB	UB	LB	UB	LB	UB
Citizenship behaviour intentions						
B BBB	3.5	4.0	3.1	3.6	2.7	3.3
O OBB	3.9	4.2	3.2	3.7	2.8	3.2
B BOO	3.5	4.0	3.4	3.9	3.5	4.0
O OOO	3.9	4.2	3.7	4.1	3.8	4.1
Job satisfaction						
B BBB	3.2	3.6	2.8	3.2	2.6	3.0
O OBB	3.7	4.0	3.3	3.6	2.9	3.3
B BOO	3.1	3.7	3.2	3.7	3.2	3.6
O OOO	3.6	4.0	3.5	3.9	3.6	3.9

LB: lower bound; UB: upper bound.



**Figure 1.** Development of (a) manipulation checks, (b) Citizenship behaviour intentions, and (c) job satisfaction along four different contract evaluation sequences (Study 1,  $n = 286$ ).

probabilities (PHP) for each sequence tested in the data, and Figure 1(b,c) show the patterns of outcomes based on the different sequences of events. For each sequence, we tested each hypothesis and added specifications of sequences to further explore the pattern within the hypothesis that involves change. Hypotheses 1a and 1b propose different patterns of responses along a sequence involving a compensation of positive with negative events. Hypothesis 1a proposes that job satisfaction and citizenship behaviour intentions will stay constant when promises are breached after they are overfulfilled, while hypothesis 1b proposes that job satisfaction and citizenship behaviour intentions will decrease when obligations are breached after they are overfulfilled. The results displayed in Table 2 show clear support for hypothesis 1b. The data shows no support for H1a (PHP = 0 for both citizenship behaviour intentions and job satisfaction) or for the complement hypothesis in which H1a and H1b should be rejected. In addition, the PHPs for H1b show no clear support for a specific pattern of decreasing citizenship behaviour intentions and job satisfaction. For citizenship behaviour intentions, the assumption of a decelerating decrease (i.e., the magnitude of decrease is lower between E2 and E3 as between E1 and E2) showed a better fit to the data (H1b<sub>2</sub>), whereas for job satisfaction a constant decrease (similar shifts from E1 to E2, as for E2 to E3) is more likely reflected in the data (H1b<sub>1</sub>). However, for both outcomes, a pattern reflecting accelerating decrease (H1b<sub>3</sub>) received less support by the data.

The results for a sequence including a compensation of negative with positive events are less pronounced. Hypothesis 2a proposed that job satisfaction and citizenship behaviour intentions will become constant when they are overfulfilled after they are breached, and hypothesis 2b proposed that job satisfaction and citizenship behaviour intentions will increase when they are overfulfilled after they are breached. The results show that for job satisfaction, H2a receives the most support (PHP = .54), but for citizenship behaviour intentions the complement hypothesis in which both H2a and H2b are rejected receives the most support (PHP = .48). We can conclude that for job satisfaction overfulfilment could not compensate prior breach, whereas for citizenship behaviour intentions the results show some evidence for an increase (adding up the constant, and accelerating increase condition provides a probability of .43, but still the probability for not specified patterns remains higher). In conclusion, there is no clear support for H2a or H2b for citizenship behaviour intentions.

**Table 2.** Posterior hypothesis probabilities (PHPs) for study 1.

Hypothesis	Additional constraints	Theoretical interpretation	Posterior Hypothesis Probability (PHP)	
			Citizenship behaviour intentions	Job satisfaction
Combining Overfulfilled With Breached Obligations				
O OBB				
H1a: E1 = E2 = E3		No change	0	0
H1b <sub>1</sub> : E1>E2>E3	diff1 = diff2	Constant decrease	.37	.45
H1b <sub>2</sub> : E1>E2>E3	diff1>diff2	Decelerating decrease	.49	.36
H1b <sub>3</sub> : E1>E2>E3	diff1<diff2	Accelerating decrease	.13	.19
H1c: None of the above			0	0
Combining Breached With Overfulfilled Obligations				
B BOO				
H2a: E1 = E2 = E3		No change	.08	.54
H2b <sub>1</sub> : E1<E2<E3	diff1 = diff2	Constant increase	.15	.10
H2b <sub>3</sub> : E1<E2<E3	diff1>diff2	Decelerating increase	.02	.06
H2b <sub>2</sub> : E1<E2<E3	diff1<diff2	Accelerating increase	.26	.01
H2c: E1<E2 = E3		Habituation	.01	.23
H2d: None of the above			.48	.05
Sequence of Breached Obligations				
B BBB				
H3a <sub>1</sub> : E1>E2>E3	diff1 = diff2	Constant decrease	.50	.09
H3a <sub>2</sub> : E1>E2>E3	diff1>diff2	Decelerating decrease	.30	.82
H3a <sub>3</sub> : E1>E2>E3	diff1<diff2	Accelerating decrease	.20	.02
H3b: E1>E2 = E3		Habituation	0	.07
H3c: E1 = E2 = E3		No change	0	0
H3d: None of the above			0	0
Sequence of Overfulfilled Obligations				
O OOO				
H4a: E1 = E2 = E3		No change	.08	.25
H4b: E1>E2 = E3		Habituation	.57	.34
H4c <sub>1</sub> : E1>E2>E3	diff1 = diff2	Constant decrease	.06	.19
H4c <sub>2</sub> : E1>E2>E3	diff1>diff2	Decelerating decrease	.13	.14
H4c <sub>3</sub> : E1>E2>E3	diff1<diff2	Accelerating decrease	.01	.05
H4d: None of the above			.15	.03

The largest PHP is printed in bold.

Hypotheses 3 and 4 refer to sequences of either negative or positive events. Hypothesis 3a predicts that job satisfaction and citizenship behaviour intentions will decrease when obligations are repeatedly breached, and in contrast, hypothesis 3b proposes that job satisfaction and citizenship behaviour intentions will first decrease and then become constant when obligations are repeatedly breached. The latter hypothesis is clearly rejected by the data (PHP = 0 for both job satisfaction and citizenship behaviour intentions) as is the unconstrained hypothesis (PHP = 0). Looking at the alternative patterns within hypothesis 3a, the data clearly supports a decelerating decrease of job satisfaction (PHP = .82 for H3a<sub>2</sub>), and a constant decrease of citizenship behaviour intentions (PHP = .50 for H3a<sub>1</sub>).

Finally, referring to the sequence of positive events, hypothesis 4a proposes that job satisfaction and citizenship behaviour intentions will remain stable when they are repeatedly overfulfilled, while hypothesis 4b predicts that job satisfaction and citizenship behaviour intentions will first decrease and then become constant when obligations are repeatedly overfulfilled. For citizenship behaviour intentions, we find support for H4b (PHP = .57) and low support for H4a (PHP = .08). For job satisfaction, we also find most support for H4b (PHP = .34). In conclusion, there is general support for Hypothesis 4b.

### Discussion of study 1

In Study 1, we aimed to test sequences of breached and overfulfilled obligations using a vignette study. The results of Study 1 show that breached obligations have clear negative effects on outcomes such as citizenship behaviour

intentions and job satisfaction, irrespective of the extent to which breached promises are preceded by overfulfilled (H1b) or breached promises (H3a). Looking closer at the sequences tested in H1b and H3a, there is no general support for a specific pattern within the decreasing effects on the outcomes. For some outcomes and sequences, the decline is decelerating, which could indicate that responses to breached promises tends to level off, but we also find support for a constant decrease. This could indicate that there are possible moderators or mediators that impact how employees deal with sequences of breached promise; some are equally sensitive to each breached obligation, while others are able to cope with each additional breached obligation.

The results with respect to overfulfilment are less pronounced. In the compensation sequences (H1 and H2), we find little evidence that overfulfilled obligations can compensate the negative impact of breached obligations. When obligations are breached after they were overfulfilled we see a clear negative effect on our outcome variables (H1b), and there is little support for H2b, which proposed that outcomes would increase when obligations were overfulfilled after they are breached. This could suggest that, as proposed by some (Conway et al., 2011; Lambert et al., 2003), overfulfilment has similar effects compared to breached obligations. However, the sequence of repeated overfulfilment (H4) shows considerable support for a pattern in which the outcomes become stable, which suggests that the cognitive processing of overfulfilment is different from breach.

## Study 2: the game show

The aim of Study 2 was to replicate and extend the findings of Study 1. We used a combination of priming and three stages of vignettes to design sequences of breached overfulfilled obligations in Study 1. In Study 2, we included four stages allowing for a more detailed study of the four sequences. In addition, in Study 1, the breach or overfulfilment did not have actual consequences for the participants. In Study 2, we designed the study in such a way that a breached or overfulfilled obligation has actual consequences for the respondents, as their performance was constantly compared to other students.

### Design

We used a  $4 \times 4$  design in which respondents were randomly allocated across the four different sequences. Respondents had to go through four rounds of multiple-choice questions and fill in a short questionnaire at the end of each round. We used the concept of the game show “Who wants to be a millionaire?”<sup>3</sup> as the basis of the rounds of multiple choice-questions. The “Who wants to be a millionaire?”-game consists of 10 multiple choice-questions with increasing difficulty. One of the main characteristics of the game is that the contestant can use one or more “lifelines” which provide some form of assistance if he/she is unsure of the answer to a question. In our experiment, we used one particular lifeline, the 50/50 lifeline which involves the elimination of two incorrect answers, leaving one incorrect answer and the correct answer.

In the introduction of the game, the contestant/respondent is promised that he/she can use two 50/50 lifelines during each round. They could make use of the lifeline by clicking on the 50/50 button on the screen. In the experiment, the 50/50 lifeline was manipulated; the promise is breached (only one incorrect answer is eliminated) or overfulfilled (three incorrect answers are eliminated). These manipulations were designed along the four different trajectories of breach/(over)fulfilment (BBBB, BBOO, OOB, OOOO). When respondents were in the BBBB sequence, only one incorrect answer was eliminated each time they clicked on the 50/50 button in each of the four rounds. Respondents were randomly assigned to one of the four sequences, and at the end respondents were ranked based on their score. A small prize was awarded to four randomly selected respondents (one in each sequence).

### Procedure and sample

Respondents were all students at one faculty of a midsized university in the Netherlands. All students enrolled in business courses (app. 1000 students) were invited to participate by email containing a link to the online game. A total of 208 respondents participated in the experiment. The allocation of these respondents across the four different sequences was as follows: BBBB ( $n = 50$ ), OOB ( $n = 53$ ), BBOO ( $n = 56$ ), and OOOO ( $n = 49$ ). The sample included 116 women (55.8%) and 92 men (44.2%).

## Measures

### Task satisfaction

Task satisfaction was measured after each round. Similar to study 1, we adapted three items from the overall job satisfaction scale of Price (1997) to fit the experimental study; (a) “I’m satisfied with my participation in this game”; (b) “I dislike to play this game”, and (c) “I’m enthusiastic about this game”. Answer categories ranged from “Totally disagree” to “Totally agree”. Reliability (Cronbach’s Alpha) was sufficient across all four subsequent events: .64 (E1); .75 (E2); .70 (E3) and .62 (E4).

### Citizenship behaviour intentions

CBIs were measured after each round. We adapted three items of the OCB-scale developed by Kelloway et al. (2002): (a) “I am willing to take part in a follow-up study,” (b) “I am willing to participate in an interview reflecting on this game,” and (c) “I am willing to help the game show hosts to promote this game to my fellow students”. Response categories ranged from “Certainly not” to “Certainly yes”. Reliabilities were sufficient across the four subsequent events: .70 (E1), .77 (E2), .80 (E3), and .80 (E4).

### Control variables

In this study, we used gender (0 = male, 1 = female) and the score achieved in each round as covariates. We did not include age and tenure because these variables have very little variance in our student sample. Each correct answer on a multiple choice question was awarded with one point. It is possible that a respondent that is performing well in the game is more positive about the game itself despite the breached or overfulfilled obligations. Therefore, we used the total score in each round as a covariate in each of the measurement points.

## Results

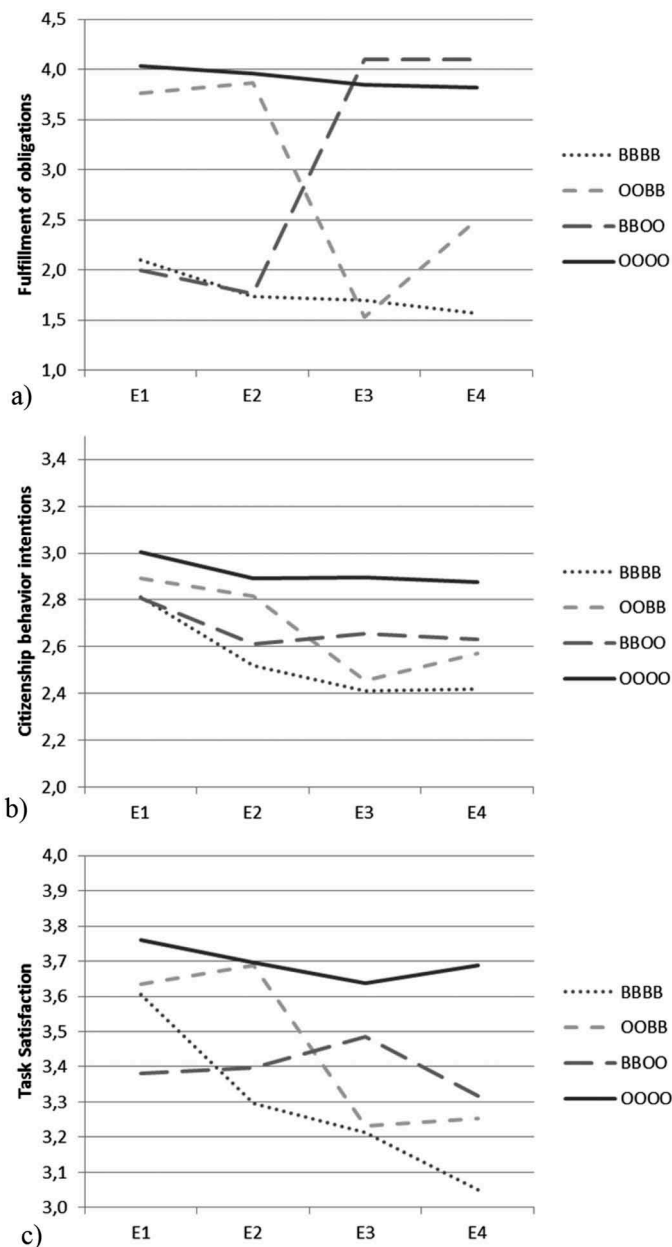
### Manipulation check

To check whether the respondents also perceived the sequence of breached/overfulfilled obligations to which they were allocated, we added a manipulation check after each round. The check consisted of a single question: “To what extent did the game show hosts fulfil their promises regarding the 50/50 lifeline”? Response categories ranged from “the game show hosts have failed to fulfil their promise” to “the game show hosts did much more than promised”. Figure 2(a) shows the answers to this single item across the three measuring points for respondents in the four different sequences. The figure shows that respondents in the BBBB and OOOO sequences consistently answer that obligations are breached/overfulfilled, and the respondents in the two compensation-sequences show a clear change in their evaluation.

### Hypotheses tests

We applied the same Bayesian logic in Study 2 as in Study 1. The credibility intervals for the adjusted means for each measurement for all sequences are reported in Table 3. The means are adjusted for the covariate gender and the time-varying covariate score in each round. Table 4 shows the posterior hypothesis properties (PHP) for each sequence tested in the





**Figure 2.** Development of (a) manipulation checks, (b) Citizenship behaviour intentions, and (c) job satisfaction along four different contract evaluation sequences (Study 2,  $n = 208$ ).

data, and Figure 2(b,c) show the graphical representations of the sequences tested in the data. The results displayed in Table 4 show clear support for hypothesis 1b. The data shows no support for H1a (PHP = 0 for both citizenship behaviour intentions and task satisfaction) and little support for the unconstrained hypothesis in which H1a and H1b should be rejected. Looking at the pattern of responses for H1b more closely, the data support a pattern of decelerating decrease of citizenship behaviour intentions (PHP = .59 for H1b<sub>3</sub>) and job satisfaction (PHP = .87 for H1b<sub>3</sub>).

Hypothesis 2a proposed that job/task satisfaction and citizenship behaviour intentions will become constant when obligations are overfulfilled after they are breached, and hypothesis 2b proposed that job/task satisfaction and citizenship behaviour intentions will increase when obligations are

overfulfilled after they are breached. The results show that for citizenship behaviour intentions H2a received the most support (PHP = .65), but for task satisfaction the null-hypothesis ( $E1 = E2 = E3 = E4$ ) received the most support (PHP = .48), although H2a receives considerable support as well (PHP = .40). In conclusion, there was no support for H2b and considerable support for H2a.

H3a predicts that task satisfaction and citizenship behaviour intentions will decrease when obligations are repeatedly breached, and in contrast, H3b proposes that task satisfaction and citizenship behaviour intentions will first decrease and then become constant when obligations are repeatedly breached. The results show that the pattern of decreasing outcomes (H3a) receives clear support. Looking at the alternative patterns within hypothesis 3a, the data supports a pattern of decelerating decrease of both task satisfaction (PHP = .71 for H3a<sub>2</sub>) and citizenship behaviour intentions (PHP = .95 for H3a<sub>2</sub>). H3b on the other hand received no support.

Finally, H4a proposes that task satisfaction and citizenship behaviour intentions will remain stable when they are repeatedly overfulfilled, while H4b predicts that task satisfaction and citizenship behaviour intentions will first decrease and then become constant when obligations are repeatedly overfulfilled. Similar to Study 1, we found most support for H4b (PHP = .48) for citizenship behaviour intentions as well as for task satisfaction (PHP = .39). For task satisfaction, there was also some support for H4a (PHP = .36). In conclusion, there is mostly support for Hypothesis 4b.

### Discussion of study 2

In Study 2, we tested our hypotheses using an experiment in which we manipulated the level of fulfilment of obligations in four rounds of exchanges and included the level of performance as a control variable. The results generally mirror the results of Study 1; sequences of breached promises have clear negative effects on outcomes including citizenship behaviour intentions and task satisfaction, overfulfilment does not compensate breached promises, and sequences of overfulfilment do not reflect the same pattern compared to breached obligations.

However, some of the specific sequences tested did receive convincing support. For example, in contrast to Study 1, the pattern in which our outcome variables show a decelerating decrease during the sequence that includes compensation of overfulfilled with breached obligations (H1b) receives most support, implying that outcomes become more negative after breached obligations but the magnitude of the change decreases when preceded by events of overfulfilment. Moreover, an additional test revealed that a pattern of  $E1 = E2 > E3 = E4$  in which outcomes stabilize when promises are breached after they were overfulfilled at first received most support for both task satisfaction (PHP = .68) and citizenship behaviour intentions (PHP = .63). This could suggest a history of positive events does not buffer against negative events immediately, but that it does help to prevent further decrease of outcomes. In contrast, a decelerating decrease received most support in the sequence of breached



**Table 3.** 95%-Credibility intervals of main variables in the four sequences tested in study 2 ( $n = 208$ ).

	E1		E2		E3		E4	
	LB	UB	LB	UB	LB	UB	LB	UB
Citizenship behaviour intentions								
BBBB	2.5	3.1	2.2	2.8	2.1	2.7	2.1	2.7
O0BB	2.6	3.2	2.5	3.1	2.2	2.7	2.3	2.9
BBOO	2.6	3.0	2.4	2.9	2.4	2.9	2.4	2.9
O0OO	2.7	3.3	2.6	3.2	2.6	3.2	2.6	3.2
Task satisfaction								
BBBB	3.4	3.8	3.1	3.5	3.0	3.5	2.6	3.3
O0BB	3.4	3.8	3.5	3.9	3.0	3.5	3.0	3.5
BBOO	3.2	3.6	3.2	3.6	3.3	3.6	3.1	3.5
O0OO	3.6	3.9	3.5	3.9	3.5	3.8	3.5	3.9

LB: lower bound; UB: upper bound.

**Table 4.** Posterior hypothesis probabilities for study 2.

Hypothesis	Additional constraints	Theoretical interpretation	Posterior Hypothesis Probability (PHP)	
			Citizenship behaviour intentions	Task satisfaction
Combining Overfulfilled With Breached Obligations				
O0BB				
H1a: E1 = E2 = E3 = E4		No change	0	0
H1b <sub>1</sub> : E1 = E2>E3>E4	diff2 = diff3	Constant decrease	.02	0
H1b <sub>2</sub> : E1 = E2>E3>E4	diff2<diff3	Accelerating decrease	0	0
H1b <sub>3</sub> : E1 = E2>E3>E4	diff2>diff3	Decelerating decrease	.59	.87
H1c: E1>E2>E3>E4	diff1 = diff2 = diff3	Decrease	.25	.08
H1d: None of the above			.13	.03
Combining Breached With Overfulfilled Obligations				
BBOO				
H2a: E1>E2 = E3 = E4		Habituation	.65	.40
H2b <sub>1</sub> : E1>E2<E3<E4	diff2 = diff3	Constant increase	.21	.01
H2b <sub>2</sub> : E1>E2<E3<E4	diff2<diff3	Accelerating increase	.03	0
H2b <sub>3</sub> : E1>E2<E3<E4	diff2>diff3	Decelerating increase	.06	0
H2c: E1 = E2 = E3 = E4		No change	.03	.48
H2d: None of the above			.02	.11
Sequence of Breached Obligations				
BBBB				
H3a <sub>1</sub> : E1>E2>E3>E4	diff1 = diff2 = diff3	Constant decrease	.03	.23
H3a <sub>2</sub> : E1>E2>E3>E4	diff1>diff2>diff3	Decelerating decrease	.95	.71
H3a <sub>3</sub> : E1>E2>E3>E4	diff1<diff2<diff3	Accelerating decrease	0	.04
H3b: E1>E2 = E3 = E4		Habituation	0	0
H3c: E1 = E2 = E3 = E4		No change	0	0
H3d: None of the above			.02	.02
Sequence of Overfulfilled Obligations				
O0OO				
H4a: E1 = E2 = E3 = E4		No change	.19	.36
H4b: E1>E2 = E3 = E4		Habituation	.48	.39
H4c <sub>1</sub> : E1>E2>E3>E4	diff1 = diff2 = diff3	Constant decrease	.23	.05
H4c <sub>2</sub> : E1>E2>E3>E4	diff1>diff2>diff3	Decelerating decrease	.09	.12
H4c <sub>3</sub> : E1>E2>E3>E4	diff1<diff2<diff3	Accelerating decrease	.01	.03
H4d: None of the above			0	.03

The largest PHP is printed in bold.

obligations (H3a), which shows that when more obligations are breached, responses do tend to become less intense, but still decrease.

#### Additional tests of overfulfilment versus fulfilment

Although the focus of this study is on overfulfilment of obligations, we collected additional data to further explore the difference between overfulfilment and fulfilment of obligations. Theoretically, overfulfilment of an obligation can be interpreted as a negative as well as a positive event (Lambert, 2011). This implies that overfulfilment potentially has negative or similar effects compared to the fulfilment of an obligation. To test the different effects of overfulfilment versus fulfilment, we collected additional data using the

vignette-design applied in Study 1. We developed vignettes for sequences reflecting combinations of fulfilled and overfulfilled obligations and fulfilled and breached obligations to explore the different effects of fulfilment and overfulfilment, also with respect to the role fulfilment can play in compensating breached obligations. The survey was administered among alumni of a medium-sized university located in the Netherlands. The new sample includes 230 respondents that are directly employed by their organization (so no freelancers, etc.). The new sample included 119 females (50.4%) and 117 males (49.6%). The average age was 41.51 years ( $SD = 9.15$ ), and the average tenure at their employer was 10.59 years ( $SD = 8.63$ ). In addition to the vignettes for breach and overfulfilment, vignettes were developed that reflected the fulfilment (F) of all promises including salary, colleagues, and a

personal budget to spend on training. We collected data on four sequences involving fulfilment (F): F|FOO ( $n = 74$ ), B|BFF ( $n = 52$ ), O|OFF ( $n = 58$ ), and F|FBB ( $n = 46$ ). Similar to the procedure used in Study 1, respondents were randomly allocated over one of the four sequences. We used the same outcome variables (job satisfaction and citizenship behaviour intentions) and analytic strategy compared to Study 1. The results of the analyses can be found in Tables 5 and 6 and Figure 3.

The results show that there is little difference between fulfilment and overfulfilment when they are used interchangeably. For both the F|FOO and O|OFF sequence, the habituation pattern receives most support; the initial drop after the first overfulfilled or fulfilled obligation is similar but minimal across sequences and outcome variables. This shows that in terms of effects of single obligations on citizenship behaviour intentions

and job satisfaction, there is little difference between a fulfilled and an overfulfilled obligation. The F|FBB sequence also shows the same pattern compared to the O|OBB sequence in Study 1. For both citizenship behaviour intentions ( $PHP = .51$ ) and job satisfaction ( $PHP = .59$ ), the decelerating decrease pattern ( $E1 > E2 > E3$ ) receives the most support. The most interesting finding concerns the B|BFF sequence. The results of the new data show that fulfilling obligations has more impact in repairing breached obligations than compensation by overfulfilled obligations, as the constant increase-pattern ( $E1 < E2 < E3$ ) received the most support. The results show that this holds for both job satisfaction ( $PHP = .43$ ) and citizenship behaviour intentions ( $PHP = .41$ ). This underscores the necessity of more research to further unravel what role remedies play in responses to subsequent breached obligations.

## General discussion

In this study, we aimed to assess the extent to which sequences of breached and overfulfilled obligations impact job satisfaction and citizenship behaviour intentions. Building on early conceptualizations of PCs as subsequent transactions based on promises about the terms of the exchange relationship (Rousseau, 1989; Schein, 1980), as well as more recent suggestions to consider PCs as series of unfolding events (Conway & Briner, 2005), we aimed to further explore how these sequences of events translate in terms of their effects on job satisfaction and citizenship behaviour intentions. We captured these sequences of transactions using experiments, and

**Table 5.** 95%-Credibility intervals of main variables additional data ( $n = 230$ ).

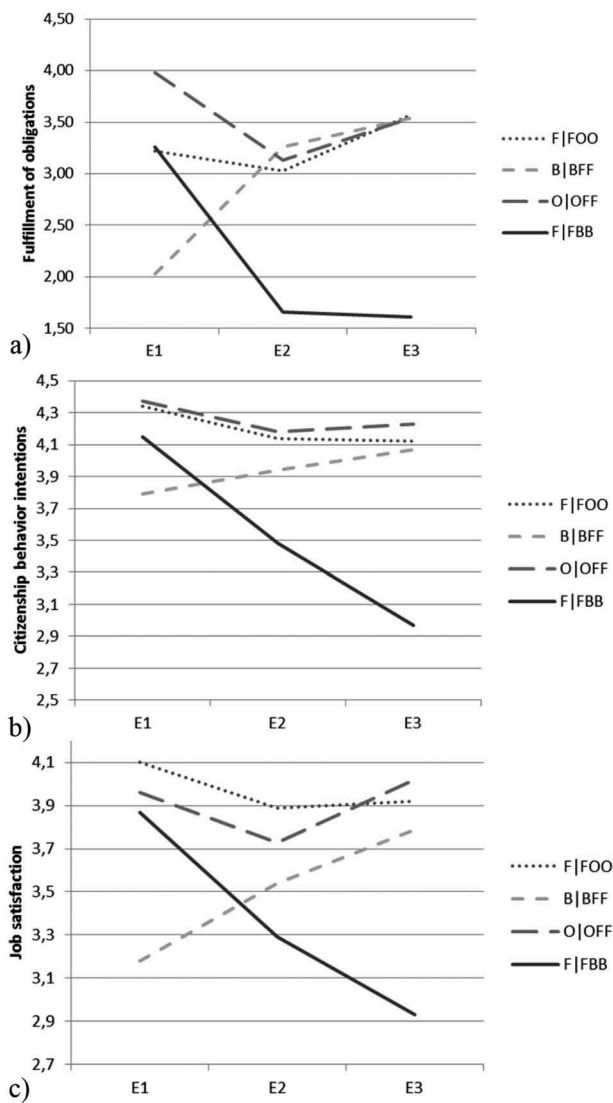
	E1		E2		E3	
	LB	UB	LB	UB	LB	UB
Citizenship behaviour intentions						
F FOO	4.2	4.5	4.0	4.3	4.0	4.3
B BFF	3.6	4.1	3.7	4.1	3.9	4.2
O OFF	4.2	4.5	4.0	4.4	4.0	4.4
F FBB	3.8	4.3	3.2	3.8	2.7	3.4
Job satisfaction						
F FOO	3.9	4.2	3.8	4.1	3.8	4.1
B BFF	2.9	3.5	3.2	3.7	3.5	3.9
O OFF	3.8	4.1	3.5	3.9	3.7	4.1
F FBB	3.6	4.0	3.0	3.6	2.7	3.2

LB: lower bound; UB: upper bound.

**Table 6.** Posterior hypothesis probabilities (PHPs) for additional data.

Hypothesis	Additional constraints	Theoretical interpretation	Posterior Hypothesis Probability (PHP)	
			Citizenship behaviour intentions	Job satisfaction
Combining Fulfilled With Breached Obligations				
F FBB				
H1a: E1 = E2 = E3		No change	0	0
H1b <sub>1</sub> : E1>E2>E3	diff1 = diff2	Constant decrease	0.30	0.28
H1b <sub>2</sub> : E1>E2>E3	diff1>diff2	Decelerating decrease	0.51	0.59
H1b <sub>3</sub> : E1>E2>E3	diff1<diff2	Accelerating decrease	0.19	0.13
H1c: None of the above			0	0
Combining Breached With Fulfilled Obligations				
B BFF				
H2a: E1 = E2 = E3		No change	0.01	0.00
H2b <sub>1</sub> : E1<E2<E3	diff1 = diff2	Constant increase	0.41	0.43
H2b <sub>2</sub> : E1<E2<E3	diff1<diff2	Accelerating increase	0.27	0.25
H2b <sub>3</sub> : E1<E2<E3	diff1>diff2	Decelerating increase	0.27	0.30
H2c: E1<E2 = E3		Habituation	0.03	0.02
H2d: None of the above			0.01	0.00
Combining Fulfilled with Overfulfilled Obligations				
F FOO				
H4a: E1 = E2 = E3		No change	0	0.03
H4b: E1>E2 = E3		Habituation	0.44	0.38
H4c <sub>1</sub> : E1>E2>E3	diff1 = diff2	Constant decrease	0.11	0.21
H4c <sub>2</sub> : E1>E2>E3	diff1>diff2	Decelerating decrease	0.40	0.29
H4c <sub>3</sub> : E1>E2>E3	diff1<diff2	Accelerating decrease	0.03	0.06
H4d: None of the above			0.02	0.03
Combining Overfulfilled with Fulfilled Obligations				
O OFF				
H4a: E1 = E2 = E3		No change	0.01	0.05
H4b: E1>E2 = E3		Habituation	0.61	0.12
H4c <sub>1</sub> : E1>E2>E3	diff1 = diff2	Constant decrease	0.06	0.01
H4c <sub>2</sub> : E1>E2>E3	diff1>diff2	Decelerating decrease	0.21	0.02
H4c <sub>3</sub> : E1>E2>E3	diff1<diff2	Accelerating decrease	0.01	0.00
H4d: None of the above			0.09	0.80

The largest PHP is printed in bold.



**Figure 3.** Development of (a) manipulation checks, (b) citizenship behaviour intentions, and (c) job satisfaction along four different contract evaluation sequences (additional data,  $n = 230$ ).

applied a Bayesian approach to test opposing hypotheses on how job satisfaction and citizenship behaviour intentions unfold during sequences of breached and overfulfilled obligations.

With respect to the effects of consecutive breaching obligations on our outcome variables the results are clear; breached obligations have an immediate and, when obligations are repeatedly breached, intensifying negative effect on the outcome variables. The data clearly supports the intensifying hypothesis (H1b), which proposes that one discrepancy between what is obligated and the actual experience of the employee can already have negative effects on outcomes such as job satisfaction and citizenship behaviour intentions, despite previous positive events. As such, a history of overfulfilled obligations does not appear to associate with more tolerant processing of breached obligations. This supports the suggestion that negative events such as breached obligations carry more weight in predicting outcomes in comparison to positive events (Taylor, 1991). In accordance with asymmetry effects theory and non-associative learning, the breached

obligation triggers a movement of information processing resources away from the positive event, making these resources available for making sense of the negative event. When this breached obligation is then followed by subsequent negative events, this information processing capacity is likely to be combined with an increased awareness of the environment and sensitivity to actions of others. In our data, we find most support for a constant and decelerating decreasing pattern in the sequence of breached obligations (H3), which suggests that our respondents did not adjust their expectations or become insensitive to negative events. Instead, each new negative event appears to attract additional processing resources and vigilance, further decreasing job satisfaction and citizenship behaviour intentions to reciprocate each additional breached obligation. This suggests that cumulating breached obligations intensify attitudinal responses rather than buffering them.

Our findings on the role of overfulfilment in negating the negative effects of breached obligations are less pronounced. When obligations are consistently overfulfilled (H4), the initial response is either neutral (no change) or slightly negative, which points towards support for considering an overfulfilled obligation as a somewhat similar event to a breached obligation (Conway et al., 2011). However, when more obligations are overfulfilled, our data seems to point to processes of habituation rather than sensitization, which proposes that such events move cognitive resources away from the event and a limited impact on job satisfaction and citizenship behaviour intentions. The primary implication of this finding is that under *subsequent exposure of events*, overfulfilled obligations are processed with less intensity and vigilance compared to breached obligations, having only limited implications for attitudinal outcomes. This suggests that, in contrast to breached obligations, overfulfilled obligations only have short-term, negative psychological consequences, rather than increasingly negative consequences. Also, in contrast to Lambert and colleagues (2003) who found different associations between overfulfilment of obligations such as pay compared to potentially distracting obligations such as training, our results of Study 1 show little difference in the nature of the obligations that are overfulfilled.

Finally, the findings with respect to the compensatory role of overfulfilment after breached obligations do not provide clear support for either hypothesis. Although the results show that breach is not irreparable (Robinson et al., 1994), overfulfilment does appear to play a role in preventing that job satisfaction and citizenship behaviour intentions to further decrease, it does not fully compensate breached obligations as well. There appears to be a high level of variety in what role overfulfilment can play in coping with breached obligations. Recent studies by Bankins (2015) and Tomprou and colleagues (2015) show that employees can use several coping strategies to deal with breached or violated obligations, ranging from accepting remedies, taking proactive actions that repair the contract and mentally and behaviourally disengaging from the situation. Our results show that compensation by overfulfilment only plays a minor role in repairing breached obligations, while our results from Study 2 show that a history of overfulfilled obligations (or pre-breach overfulfilment) does

act as a possible buffer against further escalation after subsequent breached obligations. However, this result was not apparent in Study 1. Instead, our additional data suggests that fulfilment of obligations is the most potent compensatory event after breached obligations. This suggests that employees will value signals that suggest that the exchange with them is "going back to normal" more than attempts of the organization to compensate breached obligations, which could signal that the organization has knowingly breached obligations to them. In conclusion, our results could offer a starting point to efforts to better understand the role of remedies of breached obligations.

### ***Implications for PC theory and research***

The findings reported in this paper provide a first step towards a process theory of PC evaluations. In process theories, typical patterns of events are theoretical constructs that lead to certain outcomes (Pentland, 1999). With respect to PCs, research on processes have primarily focused on the development of mental models containing beliefs about obligations (e.g., Rousseau, 2001), and how employees develop perceptions of PC breaches (Morrison & Robinson, 1997). In this study, we focus on how sequences of promisor-initiated breached and overfulfilled obligations are cognitively processed and impact employee attitudes and behavioural intentions. Based on the processes of non-associative learning, negativity bias, and theories related to uncertainty reduction, we find that particular sequences of breached and overfulfilled obligations relate to employee attitudes and behavioural intentions in different ways. These patterns can help to predict how employees will respond to sequences of events associated with obligations.

Our findings also have a number of specific implications for research on PCs. First, we show that single events such as breached or overfulfilled obligations should be considered as important determinants to the development of work-related attitudes and behavioural intentions of employees. Until now, empirical research on PCs has mainly focused on how employees cognitively cope with evaluations of obligations (e.g., Banks, 2015) without considering the active role of the organization in managing the consequences of PC evaluations. Repeatedly breaching obligations is likely to lead to an escalation of work-related attitudes and behavioural intentions, and repeatedly overfulfilling obligations leads to a stable and mostly positive development of job satisfaction and citizenship behaviour intentions. However, our results suggest that the role of the organization in compensating breached obligations is limited; breached obligations have an immediate negative impact on outcomes even when there is a history of overfulfilled obligations, and compensating for breached obligations with overfulfilled obligations stabilizes the impact on outcomes rather than repairing it. Our additional data suggest that fulfilment rather than overfulfilment has more potential in repairing breached obligations. This also indicates that breach, fulfilment and overfulfilment do not simply reflect a single continuum of PC evaluation, but that each of these types of PC evaluations has distinct effects in on-going employment relationships.

Second, our results suggest that PC theory and research needs to better acknowledge the potential for asymmetrical effects of breach relative to fulfilment, such that the breach of obligations can have a stronger effect on employee outcomes than the fulfilment of obligations. Although our study is not the first study to recognize this asymmetry (e.g., Conway et al., 2011; Lambert et al., 2003), we demonstrate this effect with regard to sequences of breached and overfulfilled obligations within the PC. Similar to effects noted elsewhere that negative information is processed differently compared to positive information (Baumeister et al., 2001; Ito & Cacioppo, 2005), it seems that breach and fulfilment of obligations within the PC are cognitively processed differently as well. We would suggest that non-associative learning, asymmetry effects theory, and notions of the negativity bias are useful perspectives to consider in the further development of PC theory in the future. This also implies that the global or composite assessments of PC evaluations should only be considered to approximate the effects of breached and fulfilled obligations. These assessments tell us little about the relative impact of each situation on outcomes, which may be quite different, or how one breach may be interpreted in relation to the state of other obligations in the PC. Our findings show that breaches have the largest and potentially most important influence on employee attitudes and behavioural intentions as it is not necessary for the PC overall to be breached for negative effects of breached obligations to be observed.

### ***Implications for practice***

This research has some important implications for managerial practice. First, this study stresses the incremental and stabilizing effects of sequences of breached and overfulfilled obligations on employee attitudes such as job satisfaction and citizenship behaviour intentions. Those responsible for managing PCs in organizations should be aware of these processes, as trusting in the acceptance or tolerance of employees in dealing with breached obligations may quickly result in lower employee outcomes. Our findings indicate that patterns exist whereby the negative effects of breach become attenuated. This may represent a point where the contract essentially becomes meaningless in the eyes of employees. At such a point, it may be futile for organizations to make efforts to maintain any remaining obligations, and need to negotiate new terms. Frequent communication about perceived obligations or the application of screening tools implemented in employee surveys may help organizations to detect breaches earlier. According to our results, it is crucial to react as soon as possible, before further breaches are observed and accumulate. The best response is to actively strive for renegotiation of the PC. Although this has been suggested by many others as well (e.g., Morrison & Robinson, 1997; Tomprou et al., 2015), our research stresses a proactive role of the employer in revisiting the content and terms of the PC. Openly engaging in talks about expectations and obligations could lead to a reactivation of the PC and new opportunities for organizations to facilitate on-going relationships with their employee.

Second, this study stresses the relative importance of breached obligations, and the limited role of overfulfilment in compensating breached obligations. Only one obligation needs to be breached to observe a detrimental impact on employee outcomes, which contrasts with previous assumptions that breached and fulfilled obligations have equally strong relations with employee outcomes (Zhao et al., 2007). The asymmetric impact of breached obligations is particularly important to managers considering the limited role of overfulfilment in compensating breached obligations. Wrapping employees in cotton wool before breaching obligations likely does not buffer the impact of breached obligations, so a strategy of paying forward to compensate for future failures to meet obligations seems to be ineffective. In order to stabilize the negative impact of breached obligations, managers are advised to use a strategy of compensation after obligations are breached, although proactive renegotiation will be needed to revitalize the PC and facilitate the development of more positive attitudes and behavioural intentions among employees. Therefore, in the case of sequential breaches of obligations, we advise practitioners to negotiate new PCs that can be more easily fulfilled.

### **Strengths, limitations, and future research avenues**

Our study has a number of strengths. It uses two distinct samples and two different experimental approaches but finds very similar results, which indicates that our findings are robust. Moreover, the experimental designs allow us to systematically control aspects such as the salience and timing of the events, and we were able to measure responses to breached and overfulfilled obligations directly after they occurred. Finally, the Bayesian testing framework that was used enabled us to test competing theories directly against each other. This test provided a simple assessment of how much evidence there is in the data for each theory relative to the other theories.

However, our study also has a number of limitations. First and foremost, our experimental design presents several limitations with respect to the external validity of our study. By using scenarios (in the vignettes) and one particular obligation (in the experiment), we keep the salience of the obligation constant, as theoretically, the salience could amplify the effect of the breach (McFarlane-Shore & Tetrick, 1994; Morrison & Robinson, 1997; Turnley & Feldman, 1999). In reality, however, different obligations may be differentially valued by different employees, creating the need for the consideration of salience in future research. Second, with experimental designs, we control the timing and extent to which obligations are breached/fulfilled. In a real organizational context, however, when and to what extent obligations are fulfilled is uncertain. Due to these limitations, our study should therefore be considered as a starting point for more empirical research on the dynamic manifestation of the PC. More research is needed to test whether these patterns of responses hold in practice. Diary or "shortitudinal" studies, for example, could be used to test habituation and sensitization for longer periods in time, although in more natural settings issues such as salience and timing would resurface. Building on research by, for example,

Conway and Briner (2002) and Solinger and colleagues (2015), critical incident techniques can be used to identify events of breached, fulfilled, and overfulfilled obligations, and test how sequences of events associate to employee outcomes. Moreover, such field studies could take into account other important factors such as personality or working environment, and test how these factors moderate responses to these sequences of events.

Second, we have modelled four theoretically distinct sequences of breached and overfulfilled obligations. These sequences are not exhaustive, which leaves the possibility for other sequences. For example, sequences could involve multiple alternations between breached or overfulfilled obligations and fulfilled obligations. More research is needed to assess the impact of these alternative sequences on work-related attitudes and behavioural intentions. With only four events captured in the sequences, we should be cautious to draw conclusions on the effects of longer sequences. It would, for instance, be interesting to test how many (over-)fulfilled obligations are necessary to compensate negative effects of breaches. In addition, the nature of the obligations used in the two studies are mainly transactional rather than relational, issuing a need for more research on sequences of PC evaluations using obligations with a relational nature, including (emotional) support and trust.

Third, the duration of the experiments was short, ranging from 15 to 25 min. Within that time, respondents had to evaluate three and four obligations in Study 1 and Study 2, respectively. As such, our results are limited to within-session habituation and sensitization and do not generalize to long-term non-associative learning. Still, we believe there is support for studying short-term effects of sequences of breached and (over)fulfilled obligations. Ballinger and Rockman (2010) propose that short sequences of events can durably change norms of reciprocity within exchange relationships. Moreover, the short duration of the vignette study presented difficulties for measuring job satisfaction and citizenship behaviour intentions. In Study 1, we measured our outcome variables by asking respondents whether they are still satisfied with their job or willing to help or assist others after a fictional obligation has been breached. Hence, responses are based on hypothetical events, which could be unrelated to their actual employment situation. This emphasizes the need for field studies on sequences of PC evaluations in which actual events can be associated with outcome variables that can be more directly associated with their employment situation, such as commitment and job performance.

Fourth, the outcome of the statistical analyses did not give decisive evidence in favour of one specific theory over the other theories because none of the posterior hypothesis probabilities was approximately equal to 1. In order to get decisive evidence for the true hypothesis larger datasets are needed. It is important to note however that the posterior hypothesis probabilities tell us *how much* evidence there is in the data between the competing theories. So we know exactly how certain (or uncertain) we are which theory is likely to be true given the available data. Note that *p*-value tests are not able to provide this information because they only tell us whether or not there is enough evidence in the data to reject a certain null theory given an arbitrarily chosen significance level.



A further limitation can be seen in the choice and operationalization of outcomes. Both, satisfaction and citizenship intentions were subjective evaluations. Using behavioural outcomes or other more objective data (like physiological responses) would be recommendable for future research. That both outcome variables have a positive connotation may produce a methodological bias. Hence, including criteria with negative connotations, like counter productive work behaviour, intention to quit, or experienced strain could be interesting.

## Conclusion

In employment relationships, breached or overfulfilled obligations do not occur in isolation. Rather, employment relationships can be considered as a sequence of positive and negative events that are part of the development of, for example, job satisfaction and citizenship behaviour intentions. In our study, we show that the interplay of breached and overfulfilled obligations have specific effects on the development of these work-related outcomes. Most importantly, a breached obligation has a negative and immediate effect on outcomes, and when obligations are repeatedly breached, this leads to a process of decreasing levels of job satisfaction and citizenship behaviour intentions. Overfulfilled obligations, on the other hand, play a minor role in compensating breached obligations, and repeatedly overfulfilling obligations does not help an organization to increase levels of job satisfaction and citizenship behaviour intentions. By looking at PCs as sequences of events, we gain a more thorough understanding about how employment relations develop, and what organizations and their agents can do to manage PCs.

## Notes

1. The vignettes were first tested in different samples including employees, fellow scholars, and students. In the final pilot study, we administered a paper-and-pencil-questionnaire with the vignette to students with a day job ( $n = 125$ ). Students were allocated across the four different sequences used in the main study: B|BBB ( $n = 36$ ), O|OBB ( $n = 31$ ), B|BOO ( $n = 29$ ), and O|OOO ( $n = 29$ ). We asked for verbal and written feedback after students filled in the questionnaire, and the feedback was used to further develop our instruments and vignette.
2. We ran ANOVA's to test for gender, age, and tenure differences across the various conditions. For gender ( $F = 1.56(4)$ ,  $p = .18$ ), age ( $F = 1.59(4)$ ,  $p = .17$ ) as well as tenure ( $F = .66(4)$ ,  $p = .62$ ), the results indicate that there are no significant differences for the control variables across the four conditions. We also tested our hypotheses without control variables and the results were very similar. However, we think that including control variables strengthens our results as these controls are frequently used in research on psychological contracts providing more validity to our experimental designs and analytical approach.
3. Licensed by Sony Pictures Television

## Acknowledgement

The authors want to thank Denise Rousseau, Amanuel Tekleab, René Schalk, Matthijs Bal, and Neil Conway for their valuable comments on previous versions of the paper.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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## Appendix A. Sets of vignettes used in Study 1

Stage	Description of vignettes	
Introduction	<i>In the upcoming period, a large reorganization will take place at the organization you currently work for. This means that there will be a turbulent time ahead, for you and for the organization. Many changes will be implemented, and some of these changes will affect you directly, whereas others will not. Despite the upcoming reorganization, your employer made several promises to you: (1) you will not receive a pay cut, (2) you and your colleagues will still work together in the future, and (3) you will receive a personal budget to spend on training.</i>	
Priming	Vignettes breach (B) <i>However, your experience tells you that not all promises were kept during earlier reorganizations</i>	Vignettes overfulfilment (O) <i>Your experience tells you that all promises were kept during earlier reorganizations and the organization did mostly even more than promised</i>
Obligation 1 (E1, salary)	<i>One day later, you receive your paycheque. You see that they have cut your wage anyway! To determine the persons who will have to address a pay cut and the amount of the decrease, a financial analysis was made to determine how large the deficits are</i>	<i>One day later, you receive your paycheque. You see that they have given you even more than the promised stable pay. To determine the persons who will receive a pay raise and the amount of the raise, a financial analysis was made to determine what the financial possibilities are</i>
Obligation 2 (E2, colleagues)	<i>The organizational change process continues. During the reorganization, you receive a lot of support from your colleagues. You really think that you are becoming a very cohesive team. Then, you hear that two of your colleagues have been fired! The next morning, you have a meeting with your supervisor. He tells you that you must accept a job at another branch nearby to keep your job. This decision was made based on the tenure of the employees</i>	<i>The organizational change continues, and your boss kept his promise to ensure that you and your colleagues still work together after the reorganization. None of your old colleagues is fired; even better, all colleagues will remain at the same position. The boss had stood up for your interests so that you will keep your job. However, this also means that there will be forced dismissals in another affiliate. This decision was made based on the tenure of the employees</i>
Obligation 3 (E3, training)	<i>The organization is nearing the end of the change process. Because you were promised that you would receive budget for training, you are already looking for some interesting training programs. Then, you receive a memo with the announcement that you will NOT receive budget for training! With the budget that was available, other employees were given a chance to enrol in training programmes. Apparently, the budget was divided among employees based on the number of contract hours</i>	<i>Before the reorganization, your boss promised that you would receive a personal budget for training and education. This promise is fulfilled because your boss did something extra, due to the training and education your boss promoted you to a new position with a higher wage. The choice for promoting you was realized because you had a strong social connection with a colleague in management</i>